

LAWRENCE BERKELEY NATIONAL LABORATORY  
Work Smart Standards (WSS) Set

LBNL Work Smart Standards Set	Effective Date
<b>Necessary Standards</b>	
Necessary standards are those which apply to Berkeley Lab by federal laws and regulations. State laws and regulations and local ordinances are also included if the applicable federal law contains a waiver of federal sovereign immunity.	
1. Public Law 91-596, Section 5(a)(1), Occupational Safety & Health Act. General Duty Clause.	7/22/99
2. 07 USC 136 et seq., FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act)	7/22/99
3. 07 USC 2131-2157, Animal Welfare Act (Transportation, Sale, and Handling of Certain Animals)	7/22/99
4. 15 USC 2601-2692, Toxic Substances Control Act	7/22/99
5. 16 USC 668 et seq. - Eagle Protection Act and 703 et seq. - Migratory Bird Treaty Act	7/22/99
6. 16 USC 1531 et seq., Federal Endangered Species Act	7/22/99
7. 25 USC, Chapter 32, 3001 et seq., Native American Graves Protection	7/22/99
8. 33 USC 1311 et seq., Clean Water Act	7/22/99
9. 42 USC Section 6901 et seq., Resource Conservation and Recovery Act (RCRA), as amended	7/22/99
10. 42 USC 7401 et seq., Clean Air Act (CAA), as amended	7/22/99
11. 42 USC Section 9601 et seq., CERCLA, as amended	7/22/99
12. 49 USC 5101 et seq., Hazardous Materials Transportation	7/22/99
13. 07 CFR 355 Endangered Species, Terrestrial Plants	7/22/99
14. 09 CFR, Chapter I, Animal and Plant Inspection Service, Department of Agriculture	7/22/99
15. 10 CFR 745 DOE, Protection of Human Subjects	7/22/99
16. 10 CFR 820 Procedural Rules for Department of Energy Nuclear Activities	9/29/00
17. 10 CFR 830 Nuclear Safety Management	9/9/99
18. 10 CFR 835 Occupational Radiation Protection	7/22/99
19. 10 CFR 850 Chronic Beryllium Disease Prevention Program; Final Rule	9/29/00
20. 10 CFR 1008 Records maintained on individuals (Privacy Act)	7/14/03
21. 21 CFR Chapter II, Drug Enforcement Administration, Department of Justice, Controlled Substances	7/22/99
22. 21 CFR 361, Prescription Drugs for Human Use Generally Recognized as Safe and Effective (Radioactive Drug Research)	7/22/99
23. 29 CFR 1630.13 Prohibited medical examinations and inquiries	7/14/03
24. 29 CFR 1630.14 Medical examinations and inquiries specifically permitted	7/14/03
25. 40 CFR Air Programs, Parts	7/22/99
50 - National Primary and Secondary Ambient Air Quality Standards	7/22/99
54 - Citizen suits	7/22/99
60 - Standards of Performance, New Stationary Sources	7/22/99

<b>Necessary Standards</b>	
61 - NESHAPs, applicable subparts	7/22/99
63 - Hazardous Air Pollutants, NESHAPs for source categories	7/22/99
68 - Chemical Accident Prevention	7/22/99
82 - Protection of Stratospheric Ozone	7/22/99
26. 40 CFR 110, Discharge of Oil	7/22/99
27. 40 CFR 112, Oil Pollution Prevention	7/22/99
28. 40 CFR 116 - Designation of Hazardous Substances; and 117 - Determination of Reportable Quantities	7/22/99
29. 40 CFR 122, NPDES System	7/22/99
30. 40 CFR 136, Analysis Procedures	7/22/99
31. 40 CFR Parts 247, Federal Agency Recycling Programs	7/22/99
32. 40 CFR 260 - 279, Hazardous Waste	7/22/99
33. 40 CFR 280, Underground Storage Tanks	7/22/99
34. 40 CFR Parts 300 and 302, CERCLA Regulations on Hazardous Substances and Reportable Quantities	7/22/99
35. 40 CFR 355, Emergency Planning and Notification (SARA Title III)	7/22/99
36. 40 CFR Parts 401 and 403 - General Pretreatment Provisions and Regulations	7/22/99
37. 40 CFR 433, Metal Finishing Point Source Category	7/22/99
38. 40 CFR 720, Premanufacture Notification	7/22/99
39. 40 CFR 761, Polychlorinated Biphenyls (PCB)	7/22/99
40. 40 CFR 763 Subpart E, U.S. EPA Asbestos-Containing Materials in Schools, Asbestos Hazard Emergency Response Act (AHERA). Reference to asbestos clearance sample limit of less than 70 structures per square millimeter only. Does not include sampling protocol or procedures	9/29/00
41. 42 CFR 72.6, Interstate Shipment of Etiologic Agents 1	11/16/99
42. 43 CFR Part 10 - Native American Grave Protection Act	7/22/99
43. 45 CFR 46, DHHS, Protection of Human Subjects	7/22/99
44. 48 CFR 936, Construction and Architect - Engineer (A-E) contracts	7/22/99
45. 49 CFR 40, Procedures for Workplace Drug Testing Programs	7/22/99
46. 49 CFR 107, Hazardous Materials Program Procedures; definitions and enforcement	7/22/99
47. 49 CFR 171-180, Hazardous Materials Regulation, the offering of hazardous materials for transportation by commercial carriers	7/22/99
48. 49 CFR 382, Controlled Substances and Alcohol Use and Testing	7/22/99
49. 49 CFR 397, Subpart D, Routing of Class 7 Radioactive Materials	7/22/99
50. 49 CFR, Research and Special Program Administration, Subchapter C (Hazardous Materials Regulations)	7/22/99
51. 50 CFR Parts 17 and 222, ESA (Endangered Species Act) Rules	7/22/99
52. CCR Title 13 sections 1160 - 1167, for activities relating to the offering of hazardous materials for transportation by commercial carriers	7/22/99

<b>Necessary Standards</b>	
53. 17 CCR Division 3, Air Resources (stationary and mobile sources)	7/22/99
54. 19 CCR Division 2, Chapter 4.5 - CA Accidental Release Prevention Program (Cal ARP)	7/22/99
55. 22 CCR Section 66260.1 et seq., Hazardous Waste Regulation	7/22/99
56. 23 CCR Div. 3, Chapter 9.2, Sections 2250, 2251, 2260, Waste Discharge Reports and Requirements, discharges of non-AEA materials to surface waters	7/22/99
57. 23 CCR Division 3, Chapter 16, Underground Storage Tank Regulations	7/22/99
58. California Fish & Game Code, Sections 1601-1607, Floodplains and Wetlands	7/22/99
59. California Health and Safety Code, Division 5, sections 5410, 5411, and 5411.5, Reporting discharge of sewage or other waste to waters of the state	7/22/99
60. California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control	7/22/99
61. California Health and Safety Code, Division 20, Chapter 6.67, Aboveground Storage of Petroleum, to the extent involving discharges or potential discharges to surface waters	7/22/99
62. California Health and Safety Code, Division 20, Chapter 6.7, Underground Storage of Hazardous Substances	7/22/99
63. California Health and Safety Code Div. 20, Chapter 6.95, Art. 2, Hazardous Materials Management	7/22/99
64. California Health and Safety Code Division 26, Air Resources, California Clean Air Act	7/22/99
65. California Health and Safety Code, Division 104, Part 14, Sections 117600-118360 California Medical Waste Management Act	7/22/99
66. California Labor Code: Division 4: Workers' Compensation and Insurance	9/29/00
67. California Public Resources Code, Division 30, Section 40000 et seq., California Integrated Waste Management Act of 1989	7/22/99
68. California Water Code, Division 7, Water Quality, to the extent involving discharges or potential discharges of non-AEA materials to surface waters	7/22/99
69. Alameda County, Measure D, Section 64, Waste Reduction and Recycling	7/22/99
70. BAAQMD Regulations 1 through 12, BAAQMD Manual of Procedures	7/22/99
71. City of Berkeley Municipal Code, Chapter 11.52, Hazardous Materials Management, to the extent sovereign immunity has been waived by federal act	7/22/99
72. City of Berkeley Municipal Code 17.20, Reduction of Storm Water Pollution (except discharges of AEA materials)	7/22/99
73. City of Berkeley Ordinance 5474, Provision Prohibiting Transportation on Specified Streets at Which Purge Chamber Openings Are Located	7/22/99
74. East Bay Municipal Utility District (EBMUD) Ordinance No. 311, (except AEA discharges). NOTE: Berkeley Lab annually accepts radiation discharge standards voluntarily	7/22/99
75. Oakland Municipal Ordinance 11590, Storm Water Management and Discharge, except discharges of AEA materials	7/22/99

<b>Necessary Standards</b>	
76. Oakland C.M.S., Article 12,CH 2, Adopting Health & Safety Code Div. 20, Ch. 6.95, Art. 2, to the extent involving prevention of accidental releases to air, and to the extent sovereign immunity has been waived by federal act.	7/22/99
77. International Air Transportation Association (IATA) Dangerous Goods Regulations (37 <sup>th</sup> edition)	7/22/99

<b>Sufficient Standards</b>	
Sufficient Standards are consensus standards, state laws and regulations and local ordinances where there is no sovereign immunity waiver in the applicable federal law and Berkeley Laboratory internal standards.	
1. 16 USC Chapter 1, Subchapter LXI, sections 432 and 433, American Antiquities Act	7/22/99
2. 16 USC, Chapter 1A, Subchapter II, sections 469(a)(1) and 470 et seq., National Historic Preservation Act	7/22/99
3. 16 USC, Chapter 1B, sections 470aa and ee, Archeological Preservation Act	7/22/99
4. 16 USC 470 h-2 Agency to preserve historic properties	7/22/99
5. 42 USC 13101 – 13109 Pollution Prevention Act of 1990	7/22/99
6. 10 CFR 71, Subparts D,E,F, Transportation of radioactive materials-package approval	7/22/99
7. 10 CFR 20 Subpart J, Precautionary Procedures	7/22/99
8. 10 CFR 20 Subparts L and M, Records and Reports (for tritium only)	7/22/99
9. 10 CFR 20, Subpart K, Section 20.2003, Disposal by Release into Sanitary Sewerage	7/22/99
10. 10 CFR 708 Employee Protection	9/29/00
11. 10 CFR 1021, National Environmental Policy Act	7/22/99
12. 10 CFR 1022, Compliance with Floodplain/Wetlands Environmental Review Requirements	7/22/99
13. 29 CFR 1910, Occupational Safety & Health Standards (as effective on 4/1/2002)	7/14/03
14. 29 CFR 1926, OSHA Safety & Health Regulations for Construction (as effective on 4/1/2002)	7/14/03
15. 36 CFR 63 – Inclusion in NR, 65 – Historic Landmarks, 68 – Preservation of Architectural Integrity, 79 – Fed. Owned Archeological Collections	7/22/99
16. 40 CFR Parts 243 and 246, Federal Agency Recycling Programs	7/22/99
17. 40 CFR 370 – Hazardous Chemical Reporting, CRT	7/22/99
18. 40 CFR 372 – Toxic Chem. Release Reporting	7/22/99
19. 43 CFR Parts 3 – Preservation of American Antiquities and 7 – Protection of Archeological Resources	7/22/99
20. 50 CFR Part 402, ESA (Endangered Species Act) Rules	7/22/99
21. EO 13101 Greening the Govt. through Waste Prevention, Recycling, and Fed. Acquisition	7/22/99
22. California Health and Safety Code, Division 20, Chapter 6.67, Aboveground Storage of Petroleum, to the extent involving discharges or potential discharges to ground waters	7/22/99
23. California Health and Safety Code, Division 20, Chapter 6.95, Article 1, Hazardous Materials Release Response Plans and Inventory	7/22/99
24. California Water Code, Division 7, Water Quality, to the extent involving discharges or potential discharges of non-AEA materials to ground waters	7/22/99
25. California Public Resources Code, Division 13, California Environmental Quality Act (CEQA), and 14 CCR Part 15000 State CEQA Guidelines	7/22/99

<b>Sufficient Standards</b>	
26. CCR Title 8, Division 1, Chapter 4, Subchapter 1, Unfired Pressure Vessel Safety Orders	7/22/99
27. CCR Title 8, Div. 1, Chapter 4, Subchapter 4, Construction Safety Orders (solely for construction safety where more strict than 29 CFR 1926)	7/22/99
28. CCR Title 17, Division 3, Air Resources (stationary and mobile sources)	7/22/99
29. CCR Title 17, Section 30275	7/22/99
30. CCR Title 17, Sections 30330-30337	7/22/99
31. CCR Title 19, Division 2, Chapter 4 – Hazardous Materials Release Response Plans	7/22/99
32. CCR Title 22, Division 2, Part 12000 (c), Chemicals Known to the State to Cause Reproductive Toxicity (consensus listing solely referenced to define reproductive toxins)	7/22/99
33. CCR, Health and Safety Code, Division 104, Part 7 (Retail Food Facilities) Chapter 4 (Retail Food Practices-California Uniform Retail Food Facilities Law [CURFFL])	10/05/01
34. CCR Title 23, Division 3, Chapter 9, Waste Discharge Reports and Requirements, discharges of non-AEA materials to ground waters	7/22/99
35. CCR Title 23, Division 3, Chapter 9.2, Reportable Quantities and Reporting Requirements, sections 2250, 2251, 2260, to the extent involving discharges of non-AEA materials to ground waters	7/22/99
36. CCR Title 24, Building Standards (for facilities design, only), Parts	7/22/99
• 2 – California Building Code (for fire protection-life safety)	
• 3 – California Electrical Code	
• 4 – California Mechanical Code	
• 5 – California Plumbing Code	
• 6 – California Energy Code	
• 7 – California Elevator Safety Construction Code	10/05/01
• 9 – California Fire Code (for fire protection-life safety)	
• 12 – California Reference Standards Code	
37. DOE 151.1A Emergency Management, Chapter VIII, Sections 4.a and 4.d; Chapter X, Sections 3.a and 3.b	7/14/03
38. DOE 210.1 Performance Indicators and Analysis of Operation Information, Attachment 1, Contractor Requirements Document	7/22/99
39. DOE 225.1A (Accident Investigation only)	9/29/00
40. DOE N 231.1, Environment, Safety and Health Reporting Notice	7/14/03
41. DOE 231.1 ES&H Reporting, Attachment 1, Contractor Requirements Document excluding DOE M 231.1-1, Chapter 1, Paragraph 1.c	7/22/99
42. DOE 232.1A Occurrence Reporting and Processing of Operations Information; Contractor Requirements Document (note: as part of Lessons Learned Program)	7/22/99
43. DOE 414.1A Quality Assurance, Attachment 1, Contractor Requirements Document	9/29/00
44. DOE 420.1 Facility Safety; Attachment 2, Contractor Requirements Document, Section 4.2 (Fire Protection) and 4.4 (Natural Phenomena Hazards Mitigation)	10/05/01

<b>Sufficient Standards</b>	
45. DOE 420.2A Safety of Accelerator Facilities, Contractor Requirements Document	10/05/01
46. DOE 430.1A, Life Cycle Asset Management (LCAM)	10/05/01
47. DOE 435.1 Radioactive Waste Management, Contractor Requirement Document, attachment 1	7/22/99
48. DOE M 435.1-1 Radioactive Waste Management Manual, applicable chapters and sections listed below:	4/11/00
Chapter I – All sections except that DOE orders incorporated by reference are applicable only to the extent they were adopted site-wide in the Berkeley Lab Necessary and Sufficient Set of standards.	
Chapter III sections: A and B, D except for (4) relative to disposal facility requirements, F, G, H and I, (J, K, O, and P only when an off-site option for Berkeley Lab TRU waste has been identified by DOE and the off-site facility has established a WAC applicable to Berkeley Lab), L, N(1), N(2), N(3), Q(1), Q(2) except that ventilation exhaust monitoring is limited to MW6 and MW7 as specified in the HWHF SAD	
Chapter IV sections: A, B, D, and F, G except for 1(d) relative to disposal facility requirements, H(1), H(2), I, J, K and L, M, N, N(2), O and R(1) except that ventilation exhaust monitoring is limited to MW6 and MW7 as specified in the HWHF SAD	5/01/00
49. DOE 440.1A Worker Protection Management, paragraphs 1-6 of first section; paragraphs 1, 2, 5-8 of functional area requirements section; paragraphs 1-11, 13-15, 18 (except 18.a and 18.i), 19 and 22 of management protection section	7/22/99
50. DOE 440.2B, Aviation	7/14/03
51. DOE 442.1A Employee Concerns Program, Attachment 1, Contractor Requirements Document	7/14/03
52. DOE 443.1 Attachment 1, Protection of Human Subjects, except for duplicate reporting requirements already covered in Necessary Standards 10 CFR 745, DOE Protection of Human Subjects and 45 CFR 46 DHHS protection of Human Subjects	7/14/03
53. DOE P 443.1 Protection of Human Subjects, except for duplicate reporting requirements already covered in Necessary Standards 10 CFR 745, DOE Protection of Human Subjects and 45 CFR 46 DHHS protection of Human Subjects	7/14/03
54. DOE Policy 450.1, Environment, Safety and Health Policy for the Department of Energy Complex	9/29/00
55. DOE Policy 450.2A, Identifying, Implementing and Complying with Environment, Safety and Health Requirements	9/29/00
56. DOE N 450.7, The Safe Handling, Transfer, and Receipt of Biological Etiologic Agents at Department Of Energy Facilities; Attachment 1, Contractor Requirements Document	4/04/02
57. DOE M 450.3-1 The Department of Energy Closure Process for Necessary and Sufficient Sets of Standards	7/22/99
58. DOE Policy 450.4, Safety Management System	9/29/00
59. DOE Policy 450.5, Line Environment, Safety and Health Oversight (except paragraph 2d)	9/29/00

<b>Sufficient Standards</b>	
60. DOE N 450.12, Extension of DOE N 450.7, The Safe Handling, Transfer and Receipt of Biological Etiologic Agents at Department of Energy Facilities	7/14/03
61. DOE 460.1A – Packaging and Transportation Safety Contractor Requirements:	7/22/99
• 1, to the extent 49 CFR Parts 107 and 170-180 are adopted in the necessary and sufficient sets herein	
• 2-4	
• 6, to the extent involving hazardous materials transportation by Berkeley Lab off LBL and UC Berkeley property	
• 7 and 9	
62. DOE 474.1A Control And Accountability of Nuclear Materials	1/05/01
63. DOE 5400.1, Chapter IV, paragraphs 1.a, 3, 4, 5 (not including 5.a.2.d), 6, and 10.c	7/22/99
64. DOE 5400.5, Chapter II, paragraphs 1 (not including 1.a.3.c and 1.c), 2, 5, 6 (not including 6.a), 7, and 8.a and all of Chapter IV	7/22/99
65. Application of DOE 5400.5 requirements for Release and Control of Property Containing Residual Radioactive Material (memo, dated 11/17/95)	7/22/99
66. DOE 5480.19 Conduct of Operations Requirements for DOE Facilities, paragraph 4	7/22/99
67. DOE 5530.5, Chg 1 Federal Radiological and Monitoring Assessment Center	7/22/99
68. DOE 5820.2A, Chapter II, Transuranic Waste excluding 3.j(QA); Chapter III, Low-Level Waste excluding 3.i(QA); Chapter IV, Accelerator Produced Radioactive Material excluding 3.b(QA); Chapter V, Decommissioning Facilities excluding 3.e(QA)	7/22/99
69. DOE-EM-STD-5502-94 Hazard Baseline Documentation	7/22/99
70. ACGIH Threshold Limit Values for Heat/Cold Stress	7/22/99
71. ACGIH Threshold Limit Values for Physical Agents: Static Magnetic Fields	7/22/99
72. ACGIH Threshold Limit Values for Physical Agents: Ultraviolet Radiation	7/22/99
73. ACGIH Threshold Limit Values (TLVs) for Chemical Substances (Note: Lab follows 29 CFR 1910.95 for occupational noise evaluation and control.)	7/22/99
74. ACGIH Ventilation Manual (Applicable Sections)	7/22/99
75. ANSI N43.2 Sections 5.2.1.1, 5.2.1.2, 5.2.2.3, 5.2.2.1.4, 6.5, 7.1	7/22/99
76. ANSI N43.3, Definitions, Sections 4.1, 5.1.1, 5.1.2, 5.1.4, 5.1.6.3, 5.1.5.2, 5.1.5, 7, 9.1, 9.2, 9.4, Annex 3	7/22/99
77. ANSI Z136.1 - 2000, American National Standard for the Safe Use of Lasers (except Section 3.4.1)	7/14/03
78. ANSI Z136.2, American National Standard for the Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources	7/22/99



<b>Sufficient Standards</b>	
79. ANSI Z358.1 Standard for Emergency Eyewash and Shower Equipment, (Applicable sections). Note: (1) Testing frequency to be quarterly, not weekly; (2) LBNL has NOT adopted provisions in the standard dealing with the temperature of the delivered flushing fluid.	10/05/01
80. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (for non-research applications)	7/22/99
81. Compressed Gas Association (CGA) Pamphlet S-1.1 and 1.2, Pressure Relief	7/22/99
82. IEEE Standard C95.1-1991, Safety Levels with Respect to Human Exposure to Radiofrequency Electromagnetic Fields, 1992	7/22/99
83. National Fire Protection Association, National Fire Codes	7/22/99
84. NRC Regulatory Guide 10.8, Appendices C,E, Human Use-QA of dose calibrator, gamma camera	7/22/99
85. Disposal Site Waste Acceptance Criteria	7/22/99
86. City of Berkeley Municipal Code 16.12.30-32-34, Monitoring Well Ordinance (except AEA materials)	7/22/99
87. City of Berkeley Noise Ordinance, Chapter 13.40 "Community Noise". Limit to referenced noise levels only.	9/29/00
88. City of Oakland Noise Ordinance, Article 1 "Public Nuisances". Limit to referenced noise levels only.	9/29/00
89. SWRCB Model Well Ordinance, Water Code Section 801c (except AEA materials)	7/22/99
90. LBNL Asbestos Management Program	7/22/99
91. Integrated Worker Health & Safety Program for Beryllium Activities at the Berkeley Laboratory, 8/1/2000	10/05/01
92. LBNL Biosafety Manual	7/22/99
93. LBNL Control Procedures for Peroxidizable Compounds	7/22/99
94. LBNL Project & Design Management Procedures Manual, RD 3.22, Lateral Force Design Criteria (Seismic Safety) Rev 4	7/14/03
95. LBNL Fire Protection Program	10/05/01
96. LBNL Health and Safety Manual (All Sections), PUB 3000	10/05/01
97. United States Housing and Urban Development (HUD), "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," June 1995	7/22/99
Chapter 12 (Paint Removal Methods); Section IV, A-E; and Section V, C. (Note: Excluding references to other HUD Guideline Chapters and work site preparation levels)	7/22/99
Chapter 14 (Cleaning). (Note: Excluding references to other HUD Guideline Chapters and reference to containment)	7/22/99
Chapter 15 (Clearance). (Note: Excluding Section IV, A-C and Table 15.1; Section V, and Section IX). However, "clearing" work sites following lead related work and applying prescribed clearance levels to work at the Lab will be implemented at the discretion of the Berkeley Lab.	7/22/99

**End of LBNL WSS Document**